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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,934	10/30/2003	Xinming Shao	2448-000011	1038

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EXAMINER

KRAMER, DEVON C

ART UNIT PAPER NUMBER

3683

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/696,934

Applicant(s)

SHAO ET AL.

Examiner

Devon C Kramer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/30/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

- 1) Claim 10 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1/10/05.
- 2) Applicant's election with traverse of species 1 in the reply filed on 1/10/05 is acknowledged. The traversal is on the ground(s) that the different species relate to the same inventive concept, being that two differing friction materials are utilized on a braking member. This is not found persuasive because there are a number of different types of pads and shoes with different classification in the art and further the separate species are patentably distinct.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Objections***

- 3) Claims 1-9 and 11-12 are objected to because of the following informalities:  
Claim 1 line 7, "the disc brake pad" should be --the brake pad--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

- 4) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 5) Claims 26-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 cites in line 3 "at least one friction member" and then cites in line 11, "forming at least one friction member". Are these the same friction members? Please note that this occurs with the second friction members also.

***Claim Rejections - 35 USC § 102***

- 6) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- 7) Claims 1, 9, 13-14, 19-22, and 25-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamaguchi et al (2003/0106749).

In re claims 1, 13-14, 21-22, and 25-26, Yamaguchi provides a brake pad (10) having a backing member comprising: at least one first friction element (11) formed of a first friction material, at least one second friction element (12) formed of a second

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friction material, the first friction element spaced from the second friction element, both friction elements being connected to the backing plate to form the brake pad. Please note that the method is inherent to the structure.

In re claim 9, see 13.

IN re claim 19, Yamaguchi et al teaches rectangle shaped members.

In re claim 20, see figure 6.

8) Claims 1, 9, 13-14, 19, 21-22, and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al (4315563).

In re claims 1, 13-14, 21-22, and 25-26, Hayashi et al provides a brake pad (figure 3) having a backing member (7) comprising: at least one first friction element (8) formed of a first friction material, at least one second friction element (5) formed of a second friction material, the first friction element spaced from the second friction element, both friction elements being connected to the backing plate to form the brake pad. Please note that the method is inherent to the structure.

IN re claim 9, see 9.

IN re claim 19, Hayashi et al teaches rectangle shaped members.

9) Claims 1, 2, 6, 9, 13-15, 19, 21-22 and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Bracken et al (WO 84/01412).

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In re claims 1, 13-14, 21-22 and 25-26, Bracken et al provides a brake pad (figure 7) having a backing member (70) comprising: at least one first friction element (72) formed of a first friction material, at least one second friction element (74) formed of a second friction material, the first friction element spaced from the second friction element, both friction elements being connected to the backing plate to form the brake pad. Please note that the method is inherent to the structure.

In re claims 2, 6, 15 and 27, Bracken et al teaches the first friction material being an organic material. (Page 7 line 15)

In re claim 9, see figure 7.

IN re claim 19, Bracken et al teaches rectangle shaped members.

***Claim Rejections - 35 USC § 103***

10) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11) Claims 2-3, 5-6, 7, 15-16 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (2003/0106749) in view of Shibata et al (4926978).

In re claims 2-3, 5-6, 7, 15-16 and 27-28, Yamaguchi et al is silent to the type of friction materials used.

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Shibata et al teaches the use of a peripheral first friction lining containing a non-asbestos organic material and a central second friction lining as a semi-metallic material. (Col. 3 lines 10-34)

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the friction materials of Yamaguchi et al with those as taught by Shibata et al in order to improve the friction characteristics of the pad and improve the braking properties.

12) Claims 3, 5, 7, 16 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bracken et al (WO 84/01412) in view of Shibata et al (4926978).

IN re claims 3, 5, 7, 16 and 28, Bracken et al is silent to the second friction material.

Shibata et al teaches a second friction material (1) that is semi-metallic.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have made the second friction material of Bracken et al from a semi-metallic material as taught by Shibata et al merely to provide a known friction material that has good friction and wear properties.

13) Claims 4, 12, 17-18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (2003/0106749), Bracken et al (WO 84/01412), or Hayashi et al (4315563) in view of Sugita et al (5503257).

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In re claims 4, 12, 17-18 and 24, Yamaguchi et al, Bracken et al and Hayashi et al all lack disc shaped or logo shaped friction elements.

Sugita et al teaches disc shaped friction elements (13a).

It would have been obvious to have made the friction elements of Yamaguchi et al, Bracken et al or Hayashi et al disc shaped merely as a design choice and since it has been held that a change in shape is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966)

14) Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (2003/0106749), Bracken et al (WO 84/01412), or Hayashi et al (4315563) in view of Shibata et al (4926978).

IN re claim 8, Yamaguchi et al, Bracken et al and Hayashi et al lack the teaching of the first and second friction materials having about the same hardness.

Shibata et al teaches a first and second friction materials having about the same hardness. (Col. 5 lines 34-42).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the friction materials of Yamaguchi et al, Bracken et al or Hayashi et al with materials of about the same hardness as taught by Shibata et al to enable even wearing of the brake pad.



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15) Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (2003/0106749), Bracken et al (WO 84/01412), or Hayashi et al (4315563) in view of Lumpkin (6244396).

In re claim 11, Yamaguchi et al, Bracken et al and Hayashi et al lack the teaching of the friction linings being removable.

Lumpkin teaches friction linings which are removable.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have made the friction linings of Yamaguchi et al, Bracken et al or Hayashi et al removable as taught by Lumpkin merely to arrange the different friction materials to optimize braking performance depending on the environment and to provide an easy means to change the brake elements.

16) Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bracken et al (WO 84/01412), or Hayashi et al (4315563).

Both Bracken and Hayashi et al lack the teaching of first and second friction materials being about the same size.

It would have been obvious to have made the two friction elements of both Bracken and Hayashi about the same size merely to create even wear of the pad and since it has been held where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the

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claimed device was not patentably distinct from the prior art device. In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984),

17) Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (2003/0106749), Bracken et al (WO 84/01412), or Hayashi et al (4315563) in view of Flowtow (5158165).

In re claim 23, Yamaguchi et al, Bracken et al and Hayashi et al are silent to the separation between the friction linings being there to promote air flow around the materials.

Flowtow teaches an air channel between friction materials to promote cooling.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the friction pads of Yamaguchi et al, Bracken et al or Hayashi et al with an arrangement to cool the pads as taught by Flowtow merely to increase the life of the pad and prevent overheating.

### ***Conclusion***

18) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bruce, Yamaguchi et al, and Eksbergian et al all provide friction linings with similar properties to the instant application.

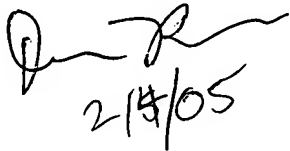
19) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon C Kramer whose telephone number is 703-305-0839. The examiner can normally be reached on Mon-Fri 8-4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DK

Handwritten signature and date 2/14/05